

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A semiconductor manufacturing apparatus comprising:

a plurality of vacuum chambers corresponding to a plurality of processing sections necessary for manufacturing a semiconductor device;

an exhaust device connected to each vacuum chamber;

a plate shaped guide plate arranged at the bottom of each vacuum chamber and having a plurality of gas emission holes; and

a gas supply source for supplying gas to the gas emission holes, wherein the plurality of vacuum chambers are adjacent to each other by way of, a shutter located between each adjacent pair of vacuum chambers; one of the two adjacent vacuum chambers includes:

a tray mounted on the guide plate of one of the vacuum chambers for receiving mounting a substrate which is to be processed in the vacuum chamber to be performed with a predetermined process;:

a conveying function section having a conveying arm for moving the tray from a first ~~one~~ vacuum chamber to a second ~~adjacent~~ ~~the other~~ vacuum chamber along the guide plate ~~plates~~ in the first and second vacuum chambers; and

a controlling function section, the controlling function section performing the control so as to open the shutter between ~~the first and second~~ vacuum chambers, to communicate the two adjacent vacuum chambers, emit gas from the gas emission holes of the guide plate ~~plates~~ in the first and second of the vacuum chambers, and move the tray in one vacuum chamber, which is floated by the emitted gas, from the guide plate of one vacuum chamber to the guide plate of the other vacuum chamber along the guide plate ~~plate~~ by means of the conveying arm.

2. (Original) The manufacturing apparatus according to claim 1, wherein the controlling function section has an operation controlling section for performing operation control of the conveying arm and the shutter, and a pressure controlling function section for performing pressure control of each vacuum chamber, the pressure controlling function section includes a configuration of including a pressure adjusting gas supply source for supplying pressure adjusting gas to each vacuum chamber, a pressure detecting part for detecting the pressure in each vacuum chamber, an adjustment valve for adjusting the exhausting amount from each vacuum chamber, and a pressure controlling section for controlling the adjustment valve so as to adjust the pressure of each vacuum chamber when input with a signal from the pressure detecting part.

3. (Currently Amended) The manufacturing apparatus according to claim 1, wherein the tray ~~include~~includes a locking part for holding the tray on the guide plates when the tray is locking the guide plate when being moved by the conveying arm.

4. (Currently Amended) The manufacturing apparatus according to claim 1, wherein the conveying function section further includes a drive section for moving the conveying arm, the drive section ~~comprising~~is configured by a pair of pulleys and a wire ~~winded~~wound around the pair of pulleys.

5. (Original) The manufacturing apparatus according to claim 4, wherein the drive section include a tensile force adjustment mechanism for maintaining the tensile force of the wire constant.

6. (Currently Amended) The manufacturing apparatus according to claim 4, wherein the conveying arm is fastened at one point on the wire, the moving distance of the conveying arm and the moving distance of the one point on the wire are the same when the wire is ~~moved~~winded by the pair of pulleys.

7. (Currently Amended) The manufacturing apparatus according to claim 1, wherein the tray is grounded on at least one of the guide plate and positioned at the relevant position as when the emission of gas from the gas emission holes stops.

8. (Currently Amended) The manufacturing apparatus according to claim 1, wherein the tray includes a plurality of the engagement parts that are configured so as to engage with the conveying arm when the tray is conveyed by the conveying arm, wherein the plurality of the engagement parts are arranged so as to be lined at a predetermined interval intervals along the moving direction of the tray, wherein the conveying arm is engaged with engages the a first engagement part positioned at the front a first end of the tray in the moving direction of the tray to cause the tray to move thereby moving the tray partway to at the target position, and wherein the conveying arm is released the engagement with releases the first engagement part positioned at the front and engage with a different and engages a second engagement part on the tray to thereby move the tray to the target position.

9. (Currently Amended) The manufacturing apparatus according to claim 8, wherein the emission of gas from the gas emission holes is interrupted from the time the conveying arm releases the engagement with the first engagement part positioned at the front until the conveying arm engages a different the second engagement part, and the tray is grounded on at least one of the guide plate and positioned at the relevant position plates while the emission of the gas is being interrupted.

10-15. Canceled.

16. (New) The manufacturing apparatus according to claim 3, wherein the locking part of the tray comprises downwardly turned side edges of the tray that engage side edges of the guide plates.

17. (New) The manufacturing apparatus according to claim 8, wherein the conveying arm is movable in first and second opposing directions, wherein the conveying arm moves in the first direction to engage one of the engagement parts on the tray, and wherein the conveying arm moves in the second direction to disengage from one of the engagement parts of a tray.

18. (New) The manufacturing apparatus according to claim 8, wherein the first and second engagement parts on the tray comprise recesses formed in the tray.

19. (New) The manufacturing apparatus according to claim 18, wherein the first and second engagement parts comprise recesses on the top surface of the tray, and wherein the conveying arm is moveable downward and upward to engage and disengage the first and second engagement parts.

20. (New) The manufacturing apparatus according to claim 6, wherein the moving distance of the conveying arm is less than the distance that the tray must travel to move from one vacuum chamber to an adjacent vacuum chamber.

21. (New) The manufacturing apparatus according to claim 1, wherein the plurality of vacuum chambers comprise first, second and third vacuum chambers arranged in a straight line, and wherein the conveying function section comprises:

a first conveying arm located in the first vacuum chamber, wherein the first conveying arm is capable of moving a tray from the first vacuum chamber into the second vacuum chamber; and

a second conveying arm located in the third vacuum chamber, wherein the second conveying arm is capable of moving a tray from the second vacuum chamber into the third vacuum chamber.

22. (New) The manufacturing apparatus according to claim 1, wherein the plurality of vacuum chambers comprise first, second, third and fourth vacuum chambers arranged in a straight line, and wherein the conveying function section comprises:

a first conveying arm located in the first vacuum chamber, wherein the first conveying arm is capable of moving a tray from the first vacuum chamber into the second vacuum chamber;

a second conveying arm located in the third vacuum chamber, wherein the second conveying arm is capable of moving a tray from the second vacuum chamber into the third vacuum chamber; and

a third conveying arm located in the third vacuum chamber, wherein the third conveying arm is capable of moving a tray from the third vacuum chamber into the fourth vacuum chamber.

23. (New) The manufacturing apparatus according to claim 22, wherein the second conveying arm is located on a first side of the third vacuum chamber, and wherein the third conveying arm is located on a second opposite side of the third vacuum chamber.

24. (New) The manufacturing apparatus according to claim 1, wherein the conveying function section comprises:

a first conveying arm located on a first side of the first vacuum chamber; and

a second conveying arm located on a second opposite side of the first vacuum chamber.

25. (New) The manufacturing apparatus of claim 24, wherein the tray includes engagement parts located on first and second opposite side edges of the tray, wherein the first conveying arm engages engagement parts located on the first side edge of the tray, and wherein the second conveying arm engages engagement parts located on the second side edge of the tray.

26. (New) The manufacturing apparatus of claim 25, wherein the engagement parts comprise recesses in the tray, and wherein contact ends of the first and second conveying arms can move into and out of the recesses to engage and disengage from the engagement parts.